

Finding of Suitability for Public Private Venture Various Marine Corps Base Hawaii Housing Areas: Kaneohe, Camp H.M. Smith and Manana OAHU, HAWAII

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Not responsive

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handling and disposal during demolition and renovations, and they are addressed in this EBS for disclosure purposes.

Lead-Based Paint (LBP). The LBP survey of the neighborhoods completed in 2006 has identified the presence of LBP in houses in the Heleloa Hilltop, Kapoho Hillside, Waikulu (NCO Row, Manning Court, Rainbow), Ulupau, Camp Smith, and Manana housing areas. Lead is also considered a finding for Pa Honua housing area. Since LBP hazards are not regulated under CERCLA, no ECP category is assigned to LBP hazards; however, they are addressed in this EBS for disclosure purposes.

Pesticides/Herbicides. According to housing management, pesticides/herbicides have been legally applied to the interior of the homes at MCBH housing areas. Chlordane was used as an insecticide and may have been applied to attic spaces. This is a finding of concern requiring notification for the Class II (improvements) constructed prior to 1979 (Heleloa Hilltop, Kapoho Hillside, Waikulu [NCO Row, Manning Court, Rainbow], Ulupau, Camp Smith, and Manana).

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Polychlorinated Biphenyls (PCBs). Fluorescent light ballasts that contain PCBs may be present within the housing units constructed prior to the ban on manufacturing in 1979 (Heleloa Hilltop, Kapoho Hillside, Waikulu [NCO Row, Manning Court, Rainbow], Ulupau, Camp Smith, and Manana). Since this building material is not regulated under CERCLA, no ECP category is assigned to this material. However, PCB containing light ballasts require proper handling and disposal during demolition and renovations, and they are addressed in this EBS for disclosure purposes.

Radon. Recent radon screening of 40 units in the Waikulu - Rainbow sub-neighborhood indicated radon levels below 4 pCi/L with the exception of one housing unit (unit 2530A). Mitigation measures have been recommended by Oak Ridge National Laboratory (ORNL) for unit 2530A. In addition, ORNL has recommended further testing be conducted for the remaining 265 units in the Waikulu - Rainbow sub-neighborhood.

Recent radon screening of six of the eight units in the Waikulu - NCO Row sub-neighborhood indicated radon levels below 4 pCi/L. Further testing of the remaining two units (403A and 404A) in the NCO Row sub-neighborhood is recommended

Radon levels in the FY97 portion of the Pa Honua neighborhood housing areas readings were lower than EPA's action level of 4 pCi/L, however, they were higher than all other housing areas tested. Based on an evaluation of the radon results and geological considerations, further testing is recommended by ORNL for the 28 remaining housing units in the FY97 portion of the Pa Honua neighborhood.

Radon screening of the Hana Like, Waikulu - Mokapu Court, and Kaluapuni neighborhoods has not been performed. Radon assessment will need to follow the procedures outlined in the Radon Management Plan.

Stormwater. Three Waikulu - Rainbow housing units (2503, 2524, 2572), two Hawaii Loa housing units (6280, 6372), and one Nani Ulupau housing unit (2686) have been impacted by heavy rains in the past. One Hawaii Loa housing units (6372), and one Nani Ulupau housing unit (2686) have been impacted by erosion issues due to heavy rains.

Other Environmental Concerns - Cultural Resources. The 23 housing units at Heleloa Hilltop and eight housing units at Waikulu - NCO Row are eligible for listing in the NRHP under

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required short term action of abatement or removal. This finding is an area of concern pertaining to the Class II Property (improvements).

- **Hazardous Substances/Hazardous Materials/Hazardous Wastes** The housing units are reported to have canec ceilings (DoN 2006c). Canec is a wood fiber made from sugar cane stalks and is known to contain significant levels of arsenic. Due to the age of the development, housing units could also have mercury and lead-containing fluorescent light tubes, mercury-containing switches, and ozone-depleting substances (ODS)-containing appliances (DoN 2003). These materials require proper handling and disposal during demolition and renovations. These findings are an area of concern pertaining to the Class II Property (improvements).
- **Historic Characteristics.** The twenty three (23) housing units at Heleloa Hilltop are eligible for listing in the National Register of Historic Places (NRHP) under Criterion C, as properties embodying distinctive characteristics of single family housing construction during World War II. This finding is an area of concern pertaining to the Class II Property (improvements).
- **Lead-Based Paint.** Twenty (20) of the 23 housing units within the neighborhood were selected for LBP inspections in 2006. Based on the Department of Housing and Urban Development (HUD) Guidelines, 44 component types met the criteria for community-wide lead-based painted surfaces. Ten housing units were selected for lead risk assessments and the majority of the surfaces were considered intact. However, the following six component types were identified as damaged and recommended for restoration or removal per HUD O&M Guidelines: Interior Cabinet (wood), Exterior Ceilings (wood), Interior Door (wood), Exterior Rafters (wood), Interior Wall (wood), and Interior Window (wood). It was concluded that a community-wide dust lead hazard does not exist; however, isolated incidences of dust lead hazard were present in one unit (513 Nimitz Rd) on the bare floors and in one unit (511 Nimitz Rd) on the window troughs. These findings are an area of concern pertaining to the Class II Property (improvements).
- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH Integrated Natural Resources Management Plan/Environmental Assessment (INRMP/EA) and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I (land).
- **Pesticides/Herbicides.** Pesticides/herbicides have been legally applied to the interior and exterior of the homes at MCBH Kaneohe to control various pests and plants. There is also a very strong possibility that chlordane was applied beneath housing floor slabs in the past for termite protection. Additionally, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in other areas besides under slabs. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on

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containing fluorescent light tubes, mercury-containing switches, and ODS-containing appliances (DoN 2003). These materials require proper handling and disposal during demolition and renovations. These findings are an area of concern pertaining to the Class II Property (improvements).

- **Historic Characteristics.** The Kapoho Hillside neighborhood, constructed in 1957, was built as part of the nationwide Capehart - Wherry Military Family Housing Program. A Program Comment issued by the ACHP in 2004 suggests that Wherry and Capehart Era (1949-1962) family housing may be eligible for listing in the NRHP. This finding is an area of concern pertaining to Class II Property (improvements).

- **Lead-Based Paint.** The ten housing units within the neighborhood were selected for LBP inspections in 2006. Based on the HUD Guidelines, 11 component types met the criteria for community-wide lead-based painted surfaces. Five housing units were selected for lead risk assessments and the majority of the surfaces were considered intact. However, the following two component types were identified as damaged and recommended for restoration or removal per HUD O&M Guidelines: Exterior Carport Ceilings (wood) and Exterior Carport Rafters (wood). It was concluded that a community-wide dust lead hazard does exist on window troughs; however, only an isolated incidence of dust lead hazard was present in one unit (1203 Yarnell Rd) on the bare floors. This finding is an area of concern for the Class II Property (improvements).

- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH INRMP/EA and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I (land).

- **Pesticides/Herbicides.** Pesticides/herbicides have been legally applied to the interior and exterior of the homes at MCBH Kaneohe to control various pests and plants. There is also a very strong possibility that chlordane was applied beneath housing floor slabs in the past for termite protection. Additionally, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in other areas besides under slabs. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class II Property (improvements) and the Class I Property (land).

Not responsive

- **Polychlorinated Biphenyls.** Due to the age of the development, housing units could have PCB-containing fluorescent light ballasts. This material requires proper handling and disposal during demolition and renovations. This finding is an area of concern pertaining to the Class II Property (improvements).

Not responsive

foundations. This finding is an area of concern for the Class II Property (improvements).

- **Hazardous Substances/Hazardous Materials/Hazardous Wastes.** Housing units could have mercury and lead-containing fluorescent light tubes, and ODS-containing appliances (DoN 2003). These findings are an area of concern for the Class II Property (improvements).

- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH INRMP/EA and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. Soil stabilization problems have occurred within the Hawaii Loa neighborhood which caused problems after construction and required some residents to vacate buildings while stabilization buttressing work was done. Prior to any ground disturbance, proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I Property (land).

- **Pesticides/Herbicides.** Pesticides/herbicides have been legally applied to control various pests and plants. The housing units were constructed in 1998, well after the ban on the use of chlordane; therefore, we assume that chlordane is not a concern for the Class II (improvements). However, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in the soil. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class I Property (land).

Not responsive

- **Stormwater.** The housing unit, 6372 Nueka Street, has been impacted by heavy rains in the past. This has been identified as a finding of concern for the Class II property (improvements). The housing unit, 6280 Gier Street, has been impacted by stormwater due to erosion and/or swale maintenance issues. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government (DoN 2005a). This has been identified as a finding of concern for the Class I (land) and Class II property (improvements).

Off-Site Findings of Concern

Not responsive

- **Potential Migration of Off-site PCB Contamination.** Soil surrounding electrical transformer site 505 located next to the adjacent Building 505 to the east of the neighborhood was found to contain PCBs (DoN 2005a). This site has been assigned an IR Program ranking of Category 6 (required actions have not yet been implemented) and has been added to the IR Program. This finding is an area of concern for the Class I Property (land).

assigned an IR ranking of Category 6 (required actions have not yet been implemented) and has been added to the IR Program. These findings are an area of concern for the Class I Property (land).

- **Pesticides/Herbicides.** *NCO Row, Manning Court, Rainbow, and Mokapu Court:* Pesticides/herbicides have been legally applied to the interior and exterior of the homes at MCBH Kaneohe to control various pests and plants. There is also a very strong possibility that chlordane was applied beneath housing floor slabs in the past for termite protection. Additionally, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in other areas besides under slabs. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class II Property (improvements) of the NCO Row, Rainbow and Manning Court sub-neighborhoods. This finding is also an area of concern for the Class I Property (land) of the NCO Row, Rainbow, Manning Court, and Mokapu Court sub-neighborhoods.

Not responsive

- **Polychlorinated Biphenyls.** *Rainbow,:* Nine pad mounted electrical transformer sites located within the neighborhood were found to contain PCBs (see description above). All nine sites require further investigation. These findings are an area of concern for the Class I Property (land) of the Rainbow sub-neighborhood.

NCO Row, Manning Court, and Rainbow: Similarly, fluorescent light ballasts within the neighborhood improvements may contain PCBs. These findings are an area of concern for the Class II Property (improvements) of the NCO Row, Manning Court, and Rainbow sub-neighborhoods.

- **Radon.** *NCO Row:* Recent radon screening of six of the eight units in the NCO Row sub-neighborhood indicated radon levels below 4 picocuries per liter (pCi/L). Further testing of the remaining two units (403A and 404A) was recommended (ORNL 2006). This finding is an area of concern for the Class II Property (improvements).

Manning Court: Recent radon screening of the Manning Court sub-neighborhood indicated radon levels below 4 pCi/L. No further testing is required unless the units get central air conditioning (ORNL 2006).

Rainbow: Recent radon screening of the Rainbow sub-neighborhood indicated radon levels below 4 pCi/L with the exception of one housing unit (unit 2530A). Mitigation measures have been recommended by ORNL for unit 2530A. The unit is scheduled to be demolished within the required remedial action time frame. Therefore no action has been taken beyond notifying the resident and encouraging the resident to increase cross ventilation within the home.

In addition, ORNL recommended further testing be conducted for the following 265 units: 2500C, 2500D, 2501A, 2501B, 2502A, 2502B, 2502C, 2502D, 2502E, 2503A, 2503B, 2503C, 2503D, 2503F, 2504A, 2504B, 2504C, 2504D, 2504E, 2505A, 2505B, 2505C, 2505D, 2506A, 2507B, 2507C, 2507D, 2508A, 2508B,

On-Site Findings of Concern

Not responsive

- **Archeological Features.** Replacement construction is ongoing in this housing area. Grading and trenching have uncovered intact human burials (DoN 2006a). Prior to any ground disturbance, proposed action must be reviewed by the Government (DoN 2005a). This finding is an area of concern for the Class I Property (land).
- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH INRMP/EA and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I Property (land).
- **Pesticides/Herbicides.** Pesticides/herbicides have been legally applied to control various pests and plants. The housing units are currently being constructed, well after the ban on the use of chlordane; therefore, we assume that chlordane is not a concern for the Class II (improvements). However, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in the soil. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class I Property (land).

Not responsive

- **Radon.** Kaluapuni is currently under construction and a radon screening has not been performed. All newly constructed units will need to follow the procedures outlined in the Radon Management Plan referenced in the Ground Lease. This finding is an area of concern for the Class II Property (improvements).

Based on the EBS findings, the environmental factors/resources that have been determined to pose a threat to human health and the environment are described in Table 2. The associated specific restrictions and reservations for these environmental factors/resources and the general restrictions and reservations are presented in Section 7.

6.6 SUMMARY OF ENVIRONMENTAL FINDINGS OF CONCERN FOR NANI ULUPAU HOUSING AREA

Not responsive

The Nani Ulupau housing area was just recently constructed in 1991. Based on the findings of the EBS report, the majority of Nani Ulupau housing area is classified at Category 1, i.e., areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas). The property categorization for Nani Ulupau is summarized in Table 1 and on Figure 9. The following is a summary of environmental findings of concern for Nani Ulupau.

On-Site Findings of Concern

Not responsive

- **Archeological Features.** Human remains have been encountered during previous construction at the Nani Ulupau neighborhood (DoN 2006a). Prior to any ground disturbance, proposed action must be reviewed by the Government (DoN 2005a).
- **Asbestos.** Previous asbestos surveys of the neighborhood did not find ACM in the housing units (DoN 1997d). However, ACM may be present in the housing units that were not identified in the surveys because they were not readily accessible or visible. ACM that may also be present in the housing units include: roofing materials, asbestos concrete pipes, transite in housing walls, sink undercoating, mastic for rubber base boards, drywall joint compound, ceiling acoustical tiling, and asbestos coated pipes in concrete foundations. This finding is an area of concern for the Class II Property (improvements).
- **Hazardous Substances/Hazardous Materials/Hazardous Wastes.** Housing units could have mercury and lead-containing fluorescent light tubes, mercury-containing switches, and ODS-containing appliances (DoN 2003). These materials require proper handling and disposal during demolition and renovations. These findings are an area of concern pertaining to the Class II Property (improvements).
- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH INRMP/EA and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I Property (land).
- **Pesticides/Herbicides.** Pesticides/herbicides have been legally applied to control various pests and plants. The housing units were constructed in 1992, well after the ban on the use of chlordane; therefore, we assume that chlordane is not a concern for the Class II (improvements). However, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in the soil. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class I Property (land).
- **Stormwater.** Housing Unit 2686 located on the northern end of the neighborhood is currently being impacted by soil erosion from the hillside adjacent to the east of the building. During storm events, soil carried by runoff is deposited around Housing Unit 2686. This has been identified as a finding of concern for the Class I (land) and Class II property (improvements). Any mitigation measures must be approved by the Government for incorporation of the latest Erosion Mitigation Best Management Plans (BMPs).

any ground disturbance and the proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I Property (land).

Not
responsive

- **Pesticides/Herbicides.** Pesticides/ herbicides have been legally applied to the interior and exterior of the homes at MCBH Kaneohe to control various pests and plants. There is a very strong possibility that chlordane was applied beneath housing floor slabs in the past for termite protection. Additionally, chlordane was used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in other areas besides under slabs. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class I Property (land) and Class II Property (improvements).
- **Polychlorinated Biphenyls.** Due to the age of the development, housing units could have PCB-containing fluorescent light ballasts. This material requires proper handling and disposal during demolition and renovations. This finding is an area of concern pertaining to the Class II Property (improvements).

Off-Site Findings of Concern

Not
responsive

- **Archeological Features on Adjacent Land.** Human remains have been encountered during previous construction at the adjacent Nani Ulupau neighborhood (DoN 2006a). Prior to any ground disturbance, proposed action must be reviewed by the Government (DoN 2005a). This finding is an area of concern for the Class II Property (improvements).

Based on the EBS findings, the environmental factors/resources that have been determined to pose a threat to human health and the environment are described in Table 2. The associated specific restrictions and reservations for these environmental factors/resources and the general restrictions and reservations are presented in Section 7.

6.8 SUMMARY OF ENVIRONMENTAL FINDINGS OF CONCERN FOR PA HONUA HOUSING AREA

Not responsive

The Pa Honua neighborhood consists of four distinct housing areas identified as FY 63 South, FY 64, FY 65, and FY 97. The Subject Property for this FOS includes only the 238 housing units in the FY 65 and FY 97 housing areas. Based on the findings of the EBS report, the majority of Pa Honua housing area is classified at Category 1, i.e., areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas). The property categorization for Pa Honua is summarized in Table 1 and on Figure 11. The following is a summary of environmental findings of concern for Pa Honua.

On-Site Findings of Concern

Not responsive

- **Asbestos.** No ACM survey results were available at the time of this report, and it is not known if such surveys have been conducted for the area. Due to the relatively recent construction date of the homes (1997 and 2002), it is not likely that significant ACM is present within the buildings. However, ACM may also be present in the housing units within roofing materials, asbestos concrete pipes, transite in housing walls, sink undercoating, mastic for rubber base boards, drywall joint compound, ceiling acoustical tiling, and asbestos coated pipes in concrete foundations. These findings are an area of concern for the Class II Property (improvements).
- **Hazardous Substances/Hazardous Materials/Hazardous Wastes.** Housing units could have mercury and lead-containing fluorescent light tubes, mercury-containing switches, and ODS-containing appliances (DoN 2003). These materials require proper handling and disposal during demolition and renovations. These findings are an area of concern pertaining to the Class II Property (improvements).
- **Lead-Based Paint.** A LBP survey was conducted on the neighborhood prior to the revitalization and LBP was identified primarily on exterior surfaces (most damaged) of 52 units inspected within the Pa Honua FY65 housing area. Although the Pa Honua housing area was revitalized in 1997 and 2002, based on information from other revitalization projects, LBP is still a potential finding of concern for the Class II Property (improvements).
- **Lead in Soil.** A LBP survey was conducted on the neighborhood prior to the revitalization and Lead in Soil was identified a single soil sample within the Pa Honua FY65 housing area. This finding was considered an isolated instance within the community; however, the location of the isolated instance was not available at the time of report preparation. This finding is an area of concern for the Class I Property (land).
- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH INRMP/EA and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. The wetland areas to the south (Motor Pool Wetlands and the Nuupia Ponds Wetlands Area) are also frequented by endangered and protected species (DoN 2005a). This is a finding of concern for the Subject Property (the land and buildings) as coordination with personnel the Government will be necessary when working at the neighborhood.
- **Pesticides/Herbicides.** Pesticides/herbicides have been legally applied to control various pests and plants. The housing units were constructed in 1997 and 2002, well after the ban on the use of chlordane; therefore, we assume that chlordane is not a concern for the Class II (improvements). However, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in the soil. Additionally, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in other areas

besides under slabs. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class I Property (land).

Not responsive•

Radon. Radon levels in the FY97 housing units were lower than EPA's action level of 4 pCi/L, however, they were higher than all other housing areas tested. Based on an evaluation of the radon results and geological considerations, further testing is recommended by ORNL for the following 28 FY97 housing units: 6411B, 6413A, 6413B, 6415B, 6419A, 6419B, 6421B, 6425A, 6427A, 6427B, 6429A, 6433B, 6435A, 6435B, 6440B, 6442A, 6446B, 6448A, 6448B, 6450A, 6452A, 6452B, 6454B, 6458A, 6460A, 6460B, 6464A, 6464B. Therefore, this finding is an area of concern for the Class II Property (improvements).

Off-Site Findings of Concern

Not responsive•

IR Program Site on Adjacent Property. IR Site 2 (Quarry Pit Landfill) is located adjacent to the west of the neighborhood. A 1989 Site Inspection was completed (DoN 1989). The site was assigned an IR Program ranking of Category 5 (e.g., areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required remediation actions have not yet been taken). This finding is an area of concern for the Class I Property (land).

- **Archeological Features on Adjacent Property.** The southern edge of Pa Honua borders Site 1002, the Mokapu Peninsula Fishpond Complex, also known as Nuupia Ponds. The site has been determined to be eligible for listing in the NRHP. Because of the presence of this site, the southern edge of the Pa Honua housing area is assessed to be within the high archaeological sensitivity zone in the MCBH Integrated Cultural Resources Management Plan (ICRMP) (DoN 2006a).

Based on the EBS findings, the environmental factors/resources that have been determined to pose a threat to human health and the environment are described in Table 2. The associated specific restrictions and reservations for these environmental factors/resources and the general restrictions and reservations are presented in Section 7.

6.9 SUMMARY OF ENVIRONMENTAL FINDINGS OF CONCERN FOR CAMP SMITH HOUSING AREA

Based on the findings of the EBS report, the majority of Camp Smith housing area is classified at Category 1, i.e., areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas). The property categorization for Camp Smith is summarized in Table 1 and on Figure 12. The following is a summary of environmental findings of concern for Camp Smith.

Not responsive•

On-Site Findings of Concern

Not responsive

- **Asbestos.** ACM sampling was conducted in four housing units for preparation of an Asbestos Management Plan in 1997 (DoN 1997f). Previous asbestos surveys of the neighborhood have identified the following ACM in the housing units: floor tiles; vinyl sheet flooring; sink undercoating; and pitch and gravel roofing (DoN 1997f). In addition, other ACM may be present in the housing units, but were not identified in the surveys because the ACM were not readily accessible or visible. ACM was stated to be a low potential hazard to occupants and workers due to its being non-friable or of low friability. These findings are an area of concern for the Class II Property (improvements).
- **Hazardous Substances/Hazardous Materials/Hazardous Wastes.** The housing units are reported to have canec ceilings (DoN 2006i). Canec is a wood fiber made from sugar cane stalks and is known to contain significant levels of arsenic. Due to the age of the development, housing units could have mercury and lead-containing fluorescent light tubes, mercury-containing switches, and ODS-containing appliances (DoN 2003). These materials require proper handling and disposal during demolition and renovations. These findings are an area of concern pertaining to the Class II Property (improvements).
- **Lead-Based Paint.** Seven housing units within the Camp Smith Housing Area were inspected for LBP in 2006. Based on the HUD Guidelines, 20 component types met the criteria for community-wide lead-based painted surfaces. Six housing units were selected for lead risk assessments and the majority of the surfaces were considered intact. However, one component type, exterior eaves (wood), was identified as damaged and recommended for restoration or removal per HUD O&M Guidelines. It was concluded that a community-wide dust lead hazard does exist on window troughs and on the bare floors.
- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH INRMP/EA and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I Property (land).
- **Pesticides/Herbicides.** According to housing management, pesticides/herbicides have been legally applied to the interior and exterior of the homes at MCBH housing areas to control various pests and plants. There is a very strong possibility that chlordane was applied beneath housing floor slabs in the past for termite protection. Additionally, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in other areas besides under slabs. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area

Not responsive

surfaces. Nineteen (19) housing units within the Manana Housing Area were selected for lead risk assessments and the majority of the surfaces were considered intact. However, the following seven component types were identified as damaged and recommended for restoration or removal per HUD O&M Guidelines: Exterior Ceilings (wood), Fascias (wood), Exterior Plumbing Pipes (metal), Storage Doors (wood), Support Columns/Trims (wood), Vents (metal) and Window Casings (wood).. It was concluded that a community-wide dust lead hazard does not exist on window troughs; however, only an isolated incidence of dust lead hazard was present in one unit (525A Birch Circle) on the bare floors.

- **Lead in Soil.** Soil samples were collected from the yards of the five housing units selected for lead risk assessments (DoN 2006d). The lead in soil concentrations indicate lead is present at concentrations ranging from <40.0 to 430 milligrams per kilograms (mg/kg) with only one (730 Elm Street) of the 21 samples exceeding the HUD and EPA level of 400 mg/kg. The average lead in soil concentration from the perimeter of the housing units was 107.2 mg/kg. This finding is an area of concern for the Class I Property (land).

- **Natural Resources.** Any landscaping or plant species alterations in all privatized housing areas must be reviewed and approved by the Government for adherence to requirements in the MCBH INRMP/EA and component Master Landscaping guidelines published in 2002 as part of the government-driven MCBH INRMP implementation process. Erosion control measures need to be addressed prior to any ground disturbance and the proposed action must be reviewed by the Government. This finding is an area of concern pertaining to Class I Property (land).

- **Pesticides/Herbicides.** According to housing management, pesticides/herbicides have been legally applied to the interior and exterior of the homes at MCBH housing areas to control various pests and plants. There is a very strong possibility that chlordane was applied beneath housing floor slabs in the past for termite protection. Additionally, chlordane was also used as a lawn and garden insecticide up until 1978, so there is a possibility that it could be in other areas besides under slabs. Prior sampling confirms that pesticides/herbicides are present in soils at various locations within MCBH housing areas (Kauai Environmental and White Environmental 2006). In addition, historical use of the area in the 1950s for agricultural purposes may have resulted in residual pesticide/herbicide constituents in soil from past application. The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release (DoN 2003). This finding is an area of concern for the Class II Property (improvements) and the Class I Property (land).

Not responsive

Polychlorinated Biphenyls. Due to the age of the development, housing units could have PCB-containing fluorescent light ballasts. This material requires proper handling and disposal during demolition and renovations. This finding is an area of concern pertaining to the Class II Property (improvements).

Not responsive

shrubs or other types of vegetation and exposing lead-contaminated soil within Manana and Pa Honua.

2. The Public-Private Entity shall test any soil removed from Manana and Pa Honua for lead.
3. The Public-Private Entity shall make available, upon Government request, the results of any sampling and testing of lead in soil.
4. In addition, the Public-Private Entity shall follow the appropriate health and safety requirements when conducting all activities. The Public-Private Entity must assess whether these wastes are considered hazardous pursuant to RCRA and must dispose of these wastes in accordance with all federal and local laws and regulations.

7.2.6 Pesticides/Herbicides

This FOS serves as the Government notification to the Public-Private Entity of the potential presence of pesticide-impacted soil at the Subject Property. The following notifications, covenants, and restrictions apply:

- **Notifications:**

1. Chlorinated hydrocarbon pesticides, including chlordane, are known to have been legally applied at the Subject Property.

- **Covenant:**

1. The Public-Private Entity shall manage pesticide-impacted soil in accordance with applicable laws and regulations.

- **Restrictions:**

1. The Public-Private Entity shall comply with and implement the provisions of the Pesticide Management Plan that has been approved by the Government. The Pesticide Management Plan shall be prepared and submitted by the Public-Private Entity to the Government prior to the execution of the lease and adequately address the pesticide-impacted soil at the subject property. Site work shall not begin until the Pesticide Management Plan has been approved by the Government.
2. No pesticides brought to the Subject Property after the execution of the Lease Agreement or pesticide-impacted materials shall be stored or disposed of on Government property without Government approval. Pesticides used in applications must be transported onto Government property from off-site storage facilities.
3. Handling and disposal of chlorinated hydrocarbon pesticide-impacted soil disturbed during construction or any other activity will be the responsibility of the Public-Private Entity.

Table 2. Environmental Factors/Resources/ Constraints at the Subject Property

Environmental Factors/Resources	Environmental Constraints						Applicable EBS Section (1)	Comments
	Prior to Agreement			After Agreement				
	Property Class			Property Class				
	Area	I	II	Area	I	II		
Not responsive <div>Mixed Wastes</div>	HH	N	N	HH	N	N	Section 3.5	<div>No Mixed Wastes were identified in the housing areas</div>
	KH	N	N	KH	N	N	Section 4.5	
	HL	N	N	HL	N	N	Section 5.5	
	WA	N	N	WA	N	N	Section 6.5	
	KN	N	N	KN	N	N	Section 8.5	
	NU	N	N	NU	N	N	Section 9.5	
	UP	N	N	UP	N	N	Section 10.5	
	PH	N	N	PH	N	N	Section 11.5	
	CS	N	N	CS	N	N	Section 12.5	
	MN	N	N	MN	N	N	Section 13.5	
Not responsive <div>Ordnance</div>	HH	N	N	HH	N	N	Section 3.5	<div>No ordnance or UXO was identified in any of the housing areas</div>
	KH	N	N	KH	N	N	Section 4.5	
	HL	N	N	HL	N	N	Section 5.5	
	WA	N	N	WA	N	N	Section 6.5	
	KN	N	N	KN	N	N	Section 8.5	
	NU	N	N	NU	N	N	Section 9.5	
	UP	N	N	UP	N	N	Section 10.5	
	PH	N	N	PH	N	N	Section 11.5	
	CS	N	N	CS	N	N	Section 12.5	
	MN	N	N	MN	N	N	Section 13.5	
Pesticides/Herbicides	HH	Y	Y	HH	Y	Y	Section 3.4	Pesticides/herbicides have been legally applied to the interior and exterior of the USMC housing areas to control infestation and vegetative growth. Chlordane was also likely applied beneath the floor slabs for termite protection. Notifications, covenants, and restrictions related to pesticides/herbicides are presented in Section 7.
	KH	Y	Y	KH	Y	Y	Section 4.4	
	HL	Y	N	HL	Y	N	Section 5.4	
	WA	Y	Y	WA	Y	Y	Section 6.4	
	KN	Y	N	KN	Y	N	Section 8.4	
	NU	Y	N	NU	Y	N	Section 9.4	

Table 2. Environmental Factors/Resources/ Constraints at the Subject Property

Environmental Factors/Resources	Environmental Constraints						Applicable EBS Section (1)	Comments
	Prior to Agreement			After Agreement				
	Property Class			Property Class				
	Area	I	II	Area	I	II		
Pesticides/Herbicides (Continued)	UP	Y	Y	UP	Y	Y	Section 10.4	Pesticides/herbicides have been legally applied to the interior and exterior of the USMC housing areas to control infestation and vegetative growth. Chlordane was also likely applied beneath the floor slabs for termite protection. Notifications, covenants, and restrictions related to pesticides/herbicides are presented in Section 7.
	PH	N	Y	PH	Y	N	Section 11.4	
	CS	Y	Y	CS	Y	Y	Section 12.4	
	MN	Y	Y	MN	Y	Y	Section 13.4	
Not responsive PCBs	HH	N	Y	HH	N	Y	Section 3.4	Due to the age of the housing, units could contain PCB-containing fluorescent light ballasts. Notifications, covenants, and restrictions related to this constituent are presented in Section 7.
	KH	Y	Y	KH	Y	Y	Section 4.4	Due to the age of the housing, units could contain PCB-containing fluorescent light ballasts. Notifications, covenants, and restrictions related to this constituent are presented in Section 7. Adjacent transformer site 588 contains PCBs, has been added to the IR Program and is recommended for further investigation. This site has been added to the IR Program and has been assigned a ranking of Category 6. Notifications, covenants, and restrictions related to IR Sites are presented in Section 7.
	HL	Y	N	HL	Y	N	Section 5.4	Soil surrounding transformer site 505, located off-site and adjacent to the eastern boundary of the Hawaii Loa housing area was found to contain PCBs. The site has been added to the IR Program and has been assigned a ranking of Category 6. Notifications, covenants, and restrictions related to IR Sites are presented in Section 7.
	WA	Y	Y	WA	Y	Y	Section 6.4	Due to the age of the housing, units could contain PCB-containing fluorescent light ballasts. Notifications, covenants, and restrictions related to this constituent are presented in Section 7. 9 PCB-containing, pad-mounted electrical transformers were identified within the Waikulu housing areas. This site has been assigned an IR ranking of Category 6 and has been added to the IR Program. Notifications, covenants, and restrictions related to IR Sites are presented in Section 7.
	KN	N	N	KN	N	N	Section 8.5	-No PCB-related issues identified in these housing areas-
	NU	N	N	NU	N	N	Section 9.5	